

Map Unit Description (MN)

Washington County, Minnesota

[Data apply to the entire extent of the map unit within the survey area. Map unit and soil properties for a specific parcel of land may vary somewhat and should be determined by onsite investigation]

2--Ostrander silt loam, 0 to 2 percent slopes

Ostrander

Extent: 90 percent of the unit

Landform(s): loess hills

Slope gradient: 0 to 2 percent

Parent material: loess over till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .24

Land capability, nonirrigated: 1

Hydric soil: no

Hydrologic group: B

Potential for frost action: moderate

Representative soil profile:

		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A --	0 to 14 in	silt loam	moderate	2.83 to 3.40 in	5.6 to 7.3
Bw1 --	14 to 30 in	silt loam	moderate	2.68 to 3.15 in	5.1 to 7.3
2Bw2 --	30 to 36 in	loam	moderate	1.00 to 1.12 in	5.1 to 7.3
2C --	36 to 60 in	clay loam	moderate	4.08 to 4.56 in	6.6 to 7.8

Map Unit Description (MN)

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2B--Ostrander silt loam, 2 to 6 percent slopes

Ostrander

Extent: 90 percent of the unit

Landform(s): loess hills

Slope gradient: 2 to 6 percent

Parent material: loess over till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .24

Land capability, nonirrigated: 2e

Hydric soil: no

Hydrologic group: B

Potential for frost action: moderate

Representative soil profile:

		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A --	0 to 14 in	silt loam	moderate	2.83 to 3.40 in	5.6 to 7.3
Bw1 --	14 to 30 in	silt loam	moderate	2.68 to 3.15 in	5.1 to 7.3
2Bw2 --	30 to 36 in	loam	moderate	1.00 to 1.12 in	5.1 to 7.3
2C --	36 to 60 in	clay loam	moderate	4.08 to 4.56 in	6.6 to 7.8

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2C--Ostrander silt loam, 6 to 12 percent slopes

Ostrander

Extent: 90 percent of the unit

Landform(s): loess hills

Slope gradient: 6 to 12 percent

Parent material: loess over till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .24

Land capability, nonirrigated: 3e

Hydric soil: no

Hydrologic group: B

Potential for frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A -- 0 to 14 in	silt loam	moderate	2.83 to 3.40 in	5.6 to 7.3
Bw1 -- 14 to 30 in	silt loam	moderate	2.68 to 3.15 in	5.1 to 7.3
2Bw2 -- 30 to 36 in	loam	moderate	1.00 to 1.12 in	5.1 to 7.3
2C -- 36 to 60 in	clay loam	moderate	4.08 to 4.56 in	6.6 to 7.8

7B--Hubbard loamy sand, 1 to 6 percent slopes

Hubbard

Extent: 90 percent of the unit

Landform(s): outwash plains

Slope gradient: 1 to 6 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .02

Land capability, nonirrigated: 4s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,AB -- 0 to 20 in	loamy sand	rapid	1.61 to 2.41 in	5.1 to 7.3
Bw -- 20 to 35 in	sand	rapid	0.45 to 1.05 in	5.1 to 7.3
C -- 35 to 60 in	sand	rapid	0.74 to 1.74 in	5.6 to 7.8

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7C--Hubbard loamy sand, 6 to 12 percent slopes

Hubbard

Extent: 90 percent of the unit

Landform(s): outwash plains

Slope gradient: 6 to 12 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .02

Land capability, nonirrigated: 6s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,AB -- 0 to 20 in	loamy sand	rapid	1.61 to 2.41 in	5.1 to 7.3
Bw -- 20 to 35 in	sand	rapid	0.45 to 1.05 in	5.1 to 7.3
C -- 35 to 60 in	sand	rapid	0.74 to 1.74 in	5.6 to 7.8

7D--Hubbard loamy sand, 12 to 18 percent slopes

Hubbard

Extent: 100 percent of the unit

Landform(s): outwash plains

Slope gradient: 12 to 18 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .02

Land capability, nonirrigated: 6s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,AB -- 0 to 20 in	loamy sand	rapid	1.61 to 2.41 in	5.1 to 7.3
Bw -- 20 to 35 in	sand	rapid	0.45 to 1.05 in	5.1 to 7.3
C -- 35 to 60 in	sand	rapid	0.74 to 1.74 in	5.6 to 7.8

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8--Sparta loamy sand, 0 to 2 percent slopes

Sparta

Extent: 90 percent of the unit

Landform(s): outwash terraces

Slope gradient: 0 to 2 percent

Parent material: sandy glaciofluvial deposits

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .17

Land capability, nonirrigated: 4s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,AB -- 0 to 16 in	loamy sand	moderately rapid	1.45 to 1.94 in	5.1 to 7.3
Bw -- 16 to 28 in	loamy sand	rapid	1.06 to 1.30 in	5.1 to 7.3
C -- 28 to 60 in	sand	rapid	1.59 to 3.19 in	5.1 to 7.3

8B--Sparta loamy sand, 2 to 6 percent slopes

Sparta

Extent: 90 percent of the unit

Landform(s): outwash terraces

Slope gradient: 2 to 6 percent

Parent material: sandy glaciofluvial deposits

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .17

Land capability, nonirrigated: 4s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,AB -- 0 to 16 in	loamy sand	moderately rapid	1.45 to 1.94 in	5.1 to 7.3
Bw -- 16 to 28 in	loamy sand	rapid	1.06 to 1.30 in	5.1 to 7.3
C -- 28 to 60 in	sand	rapid	1.59 to 3.19 in	5.1 to 7.3

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8C--Sparta loamy sand, 6 to 15 percent slopes

Sparta

Extent: 90 percent of the unit

Landform(s): outwash terraces

Slope gradient: 6 to 15 percent

Parent material: sandy glaciofluvial deposits

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .17

Land capability, nonirrigated: 6s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,AB -- 0 to 16 in	loamy sand	moderately rapid	1.45 to 1.94 in	5.1 to 7.3
Bw -- 16 to 28 in	loamy sand	rapid	1.06 to 1.30 in	5.1 to 7.3
C -- 28 to 60 in	sand	rapid	1.59 to 3.19 in	5.1 to 7.3

12C--Emmert gravelly loamy coarse sand, 3 to 12 percent slopes

Emmert

Extent: 90 percent of the unit

Landform(s): pitted outwash plains

Slope gradient: 3 to 12 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .05

Land capability, nonirrigated: 6s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 6 in	gravelly loamy coarse sand	very rapid	0.35 to 0.59 in	5.1 to 6.5
Bw,C -- 6 to 60 in	extremely gravelly coarse sand	very rapid	1.08 to 2.16 in	5.1 to 7.3

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12D--Emmert gravelly loamy coarse sand, 15 to 25 percent slopes

Emmert

Extent: 90 percent of the unit

Landform(s): pitted outwash plains

Slope gradient: 15 to 25 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .05

Land capability, nonirrigated: 7s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 6 in	loamy coarse sand	very rapid	0.35 to 0.59 in	5.1 to 6.5
Bw,C --	6 to 60 in	extremely gravelly coarse sand	very rapid	1.08 to 2.16 in	5.1 to 7.3

49--Antigo silt loam, 0 to 2 percent slopes

Antigo

Extent: 90 percent of the unit

Landform(s): outwash plains

Slope gradient: 0 to 2 percent

Parent material: loess over outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .49

Land capability, nonirrigated: 2s

Hydric soil: no

Hydrologic group: B

Potential for frost action: high

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 2 in	silt loam	moderate	0.39 to 0.47 in	4.5 to 6.5
E --	2 to 13 in	silt loam	moderate	2.20 to 2.43 in	4.5 to 6.5
Bt1,Bt2 --	13 to 26 in	silt loam	moderate	2.08 to 2.86 in	4.5 to 6.5
2Bt3 --	26 to 38 in	loamy sand	moderately rapid	0.59 to 2.24 in	4.5 to 6.5
2C --	38 to 60 in	gravelly sand	rapid	0.44 to 1.32 in	5.1 to 6.5

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49B--Antigo silt loam, 2 to 6 percent slopes

Antigo

Extent: 90 percent of the unit

Landform(s): outwash plains

Slope gradient: 2 to 6 percent

Parent material: loess over outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .49

Land capability, nonirrigated: 2e

Hydric soil: no

Hydrologic group: B

Potential for frost action: high

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 2 in	silt loam	moderate	0.39 to 0.47 in	4.5 to 6.5
E --	2 to 13 in	silt loam	moderate	2.20 to 2.43 in	4.5 to 6.5
Bt1,Bt2 --	13 to 26 in	silt loam	moderate	2.08 to 2.86 in	4.5 to 6.5
2Bt3 --	26 to 38 in	loamy sand	moderately rapid	0.59 to 2.24 in	4.5 to 6.5
2C --	38 to 60 in	gravelly sand	rapid	0.44 to 1.32 in	5.1 to 6.5

Map Unit Description (MN)

Washington County, Minnesota

49C--Antigo silt loam, 6 to 12 percent slopes

Antigo

Extent: 90 percent of the unit

Landform(s): pitted outwash plains

Slope gradient: 6 to 12 percent

Parent material: loess over outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .49

Land capability, nonirrigated: 3e

Hydric soil: no

Hydrologic group: B

Potential for frost action: high

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 2 in	silt loam	moderate	0.39 to 0.47 in	4.5 to 6.5
E --	2 to 13 in	silt loam	moderate	2.20 to 2.43 in	4.5 to 6.5
Bt1,Bt2 --	13 to 26 in	silt loam	moderate	2.08 to 2.86 in	4.5 to 6.5
2Bt3 --	26 to 38 in	loamy sand	moderately rapid	0.59 to 2.24 in	4.5 to 6.5
2C --	38 to 60 in	gravelly sand	rapid	0.44 to 1.32 in	5.1 to 6.5

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49D--Antigo silt loam, 12 to 18 percent slopes

Antigo

Extent: 90 percent of the unit

Landform(s): pitted outwash plains

Slope gradient: 12 to 18 percent

Parent material: loess over outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .49

Land capability, nonirrigated: 4e

Hydric soil: no

Hydrologic group: B

Potential for frost action: high

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 2 in	silt loam	moderate	0.39 to 0.47 in	4.5 to 6.5
E --	2 to 13 in	silt loam	moderate	2.20 to 2.43 in	4.5 to 6.5
Bt1,Bt2 --	13 to 26 in	silt loam	moderate	2.08 to 2.86 in	4.5 to 6.5
2Bt3 --	26 to 38 in	loamy sand	moderately rapid	0.59 to 2.24 in	4.5 to 6.5
2C --	38 to 60 in	gravelly sand	rapid	0.44 to 1.32 in	5.1 to 6.5

Map Unit Description (MN)

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75--Bluffton loam

Bluffton

Extent: 85 percent of the unit

Landform(s): depressions on moraines

Slope gradient: 0 to 2 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .28

Land capability, nonirrigated: 3w

Hydric soil: yes

Hydrologic group: C/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A1 -- 0 to 19 in	loam	moderate	3.78 to 4.54 in	5.6 to 7.3
Bg -- 19 to 22 in	fine sandy loam	moderate	0.47 to 0.54 in	5.6 to 7.3
Cg -- 22 to 60 in	sandy clay loam	moderately slow	5.67 to 7.18 in	7.4 to 8.4

100B--Copaston loam, 0 to 6 percent slopes

Copaston

Extent: 100 percent of the unit

Landform(s): terraces, hills

Slope gradient: 0 to 6 percent

Parent material: loamy sediment over bedrock

Restrictive feature(s): lithic bedrock at 12 to 20 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 1

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .28

Land capability, nonirrigated: 3e

Hydric soil: no

Hydrologic group: D

Potential for frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 8 in	loam	moderate	1.57 to 1.73 in	5.6 to 7.3
Bw1 -- 8 to 14 in	sandy loam	moderately rapid	0.94 to 1.07 in	5.6 to 7.3
Bw2 -- 14 to 18 in	gravelly sandy loam	moderately rapid	0.47 to 0.55 in	5.6 to 7.8
2R -- 18 to 22 in	unweathered bedrock	moderate		

Map Unit Description (MN)

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100C--Copaston loam, 6 to 12 percent slopes

Copaston

Extent: 100 percent of the unit

Landform(s): terraces, hills

Slope gradient: 6 to 12 percent

Parent material: loamy sediment over bedrock

Restrictive feature(s): lithic bedrock at 12 to 20 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 1

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .28

Land capability, nonirrigated: 6s

Hydric soil: no

Hydrologic group: D

Potential for frost action: moderate

Representative soil profile:		Texture	Permeability	Available water capacity	pH
A --	0 to 8 in	loam	moderate	1.57 to 1.73 in	5.6 to 7.3
Bw1 --	8 to 14 in	sandy loam	moderately rapid	0.94 to 1.07 in	5.6 to 7.3
Bw2 --	14 to 18 in	gravelly sandy loam	moderately rapid	0.47 to 0.55 in	5.6 to 7.8
2R --	18 to 22 in	unweathered bedrock	moderate		

113--Webster loam

Webster

Extent: 85 percent of the unit

Landform(s): drainageways on moraines

Slope gradient: 0 to 2 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .24

Land capability, nonirrigated: 2w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

Representative soil profile:		Texture	Permeability	Available water capacity	pH
Ap,A1 --	0 to 16 in	loam	moderate	3.07 to 3.39 in	6.6 to 7.3
Bg --	16 to 25 in	loam	moderate	1.45 to 1.63 in	6.6 to 7.8
Cg --	25 to 60 in	sandy clay loam	moderate	4.85 to 6.58 in	7.4 to 8.4

Map Unit Description (MN)

Washington County, Minnesota

120--Brill silt loam

Brill

Extent: 90 percent of the unit

Landform(s): drainageways on outwash plains

Slope gradient: 0 to 2 percent

Parent material: loess over outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .37

Land capability, nonirrigated: 2s

Hydric soil: no

Hydrologic group: C

Potential for frost action: high

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 3 in	silt loam	moderate	0.63 to 0.76 in	4.5 to 7.3
E --	3 to 11 in	silt loam	moderate	1.26 to 1.73 in	4.5 to 6.5
B/E --	11 to 14 in	silt loam	moderate	0.50 to 0.69 in	4.5 to 6.5
Bt --	14 to 35 in	silt loam	moderate	3.34 to 4.59 in	4.5 to 6.5
2C --	35 to 60 in	stratified sand to coarse sand	rapid	0.25 to 1.74 in	4.5 to 6.5

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123--Dundas fine sandy loam

Dundas

Extent: 85 percent of the unit

Landform(s): flats, drainageways on moraines

Slope gradient: 0 to 2 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .17

Land capability, nonirrigated: 2w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 9 in	fine sandy loam		moderate	1.36 to 1.81 in	5.6 to 6.5
E --	9 to 13 in	sandy clay loam		moderate	0.59 to 0.75 in	5.6 to 7.3
Btg --	13 to 45 in	sandy clay loam		moderate	4.78 to 6.06 in	5.6 to 7.3
Cg --	45 to 60 in	loam		moderate	2.09 to 2.84 in	7.4 to 8.4

Map Unit Description (MN)

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132B--Hayden fine sandy loam, 2 to 6 percent slopes

Hayden

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 2 to 6 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated: 2e

Hydric soil: no

Hydrologic group: B

Potential for frost action: moderate

Representative soil profile:

		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 9 in	fine sandy loam	moderately rapid	1.27 to 1.63 in	5.6 to 7.3
E --	9 to 15 in	fine sandy loam	moderately rapid	0.71 to 1.06 in	5.6 to 7.3
Bt --	15 to 50 in	clay loam	moderate	5.26 to 6.66 in	5.1 to 7.3
C --	50 to 60 in	loam	moderate	1.38 to 1.87 in	7.4 to 8.4

Map Unit Description (MN)

Washington County, Minnesota

132C--Hayden fine sandy loam, 6 to 12 percent slopes

Hayden

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 6 to 12 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated: 3e

Hydric soil: no

Hydrologic group: B

Potential for frost action: moderate

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 4 in		fine sandy loam	moderately rapid	0.55 to 0.71 in	5.6 to 7.3
E --	4 to 12 in		fine sandy loam	moderately rapid	0.94 to 1.42 in	5.6 to 7.3
Bt --	12 to 42 in		clay loam	moderate	4.55 to 5.76 in	5.1 to 7.3
C --	42 to 60 in		loam	moderate	2.48 to 3.37 in	7.4 to 8.4

Map Unit Description (MN)

Washington County, Minnesota

132D--Hayden fine sandy loam, 12 to 25 percent slopes

Hayden

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 12 to 25 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated: 6e

Hydric soil: no

Hydrologic group: B

Potential for frost action: moderate

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 4 in	fine sandy loam	moderately rapid	0.55 to 0.71 in	5.6 to 7.3
E --	4 to 6 in	fine sandy loam	moderately rapid	0.24 to 0.35 in	5.6 to 7.3
Bt --	6 to 36 in	clay loam	moderate	4.49 to 5.69 in	5.1 to 7.3
C --	36 to 60 in	loam	moderate	3.36 to 4.56 in	7.4 to 8.4

151--Burkhardt sandy loam, 0 to 3 percent slopes

Burkhardt

Extent: 90 percent of the unit

Landform(s): outwash terraces

Slope gradient: 0 to 3 percent

Parent material: loamy glaciofluvial deposits over outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 2

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .24

Land capability, nonirrigated: 3s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A1,A2 --	0 to 13 in	sandy loam	moderately rapid	1.43 to 1.95 in	5.1 to 6.5
AB --	13 to 16 in	sandy loam	moderately rapid	0.31 to 0.60 in	5.1 to 6.5
2BC,2C --	16 to 60 in	gravelly coarse sand	rapid	0.87 to 1.75 in	5.6 to 6.5

Map Unit Description (MN)

Washington County, Minnesota

151B--Burkhardt sandy loam, 3 to 9 percent slopes

Burkhardt

Extent: 90 percent of the unit

Landform(s): outwash terraces

Slope gradient: 3 to 9 percent

Parent material: loamy glaciofluvial deposits over outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 2

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .24

Land capability, nonirrigated: 4e

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A1,A2 --	0 to 13 in	sandy loam	moderately rapid	1.43 to 1.95 in	5.1 to 6.5
AB --	13 to 16 in	sandy loam	moderately rapid	0.31 to 0.60 in	5.1 to 6.5
2BC,2C --	16 to 60 in	gravelly coarse sand	rapid	0.87 to 1.75 in	5.6 to 6.5

Map Unit Description (MN)

Washington County, Minnesota

153B--Santiago silt loam, 2 to 6 percent slopes

Santiago

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 2 to 6 percent

Parent material: loess over till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .37

Land capability, nonirrigated: 2e

Hydric soil: no

Hydrologic group: B

Potential for frost action: moderate

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 7 in	silt loam		moderate	1.42 to 1.70 in	4.5 to 7.3
E --	7 to 10 in	silt loam		moderate	0.55 to 0.66 in	4.5 to 7.3
Bt --	10 to 25 in	silt loam		moderate	3.07 to 3.53 in	4.5 to 6.5
2Bt --	25 to 40 in	sandy loam		moderate	1.35 to 2.69 in	4.5 to 6.5
2C --	40 to 60 in	sandy loam		moderately slow	1.57 to 3.15 in	5.1 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

153C--Santiago silt loam, 6 to 15 percent slopes

Santiago

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 6 to 15 percent

Parent material: loess over till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .37

Land capability, nonirrigated: 3e

Hydric soil: no

Hydrologic group: B

Potential for frost action: moderate

Representative soil profile:

			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 7 in	silt loam		moderate	1.42 to 1.70 in	4.5 to 7.3
E --	7 to 10 in	silt loam		moderate	0.55 to 0.66 in	4.5 to 7.3
Bt --	10 to 25 in	silt loam		moderate	3.07 to 3.53 in	4.5 to 6.5
2Bt --	25 to 40 in	sandy loam		moderate	1.35 to 2.69 in	4.5 to 6.5
2C --	40 to 60 in	sandy loam		moderately slow	1.57 to 3.15 in	5.1 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

155B--Chetek sandy loam, 0 to 6 percent slopes

Chetek

Extent: 90 percent of the unit

Landform(s): outwash plains

Slope gradient: 0 to 6 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 2

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated: 3e

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 8 in	sandy loam	moderately rapid	0.79 to 1.18 in	5.1 to 7.3
E --	8 to 14 in	loam	moderately rapid	0.57 to 1.20 in	5.1 to 7.3
Bt --	14 to 19 in	gravelly sandy loam	moderately rapid	0.38 to 0.61 in	5.1 to 7.3
2BC,2C --	19 to 60 in	gravelly coarse sand	rapid	0.82 to 1.64 in	5.1 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

155C--Chetek sandy loam, 6 to 12 percent slopes

Chetek

Extent: 90 percent of the unit

Landform(s): pitted outwash plains

Slope gradient: 6 to 12 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 2

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated: 4e

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 8 in	sandy loam	moderately rapid	0.79 to 1.18 in	5.1 to 7.3
E --	8 to 14 in	loam	moderately rapid	0.57 to 1.20 in	5.1 to 7.3
Bt --	14 to 19 in	gravelly sandy loam	moderately rapid	0.38 to 0.61 in	5.1 to 7.3
2BC,2C --	19 to 60 in	gravelly coarse sand	rapid	0.82 to 1.64 in	5.1 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

155D--Chetek sandy loam, 12 to 25 percent slopes

Chetek

Extent: 90 percent of the unit

Landform(s): pitted outwash plains

Slope gradient: 12 to 25 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 2

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated: 6e

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	sandy loam	moderately rapid	0.79 to 1.18 in	5.1 to 7.3
E -- 8 to 14 in	loam	moderately rapid	0.57 to 1.20 in	5.1 to 7.3
Bt -- 14 to 19 in	gravelly sandy loam	moderately rapid	0.38 to 0.61 in	5.1 to 7.3
2BC,2C -- 19 to 60 in	gravelly coarse sand	rapid	0.82 to 1.64 in	5.1 to 7.3

158B--Zimmerman loamy fine sand, 0 to 6 percent slopes

Zimmerman

Extent: 90 percent of the unit

Landform(s): lake plains

Slope gradient: 0 to 6 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .24

Land capability, nonirrigated: 4s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,E -- 0 to 15 in	loamy fine sand	rapid	1.50 to 1.80 in	5.1 to 6.5
E/Bt -- 15 to 60 in	fine sand	rapid	2.69 to 4.49 in	5.1 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

158C--Zimmerman loamy fine sand, 6 to 12 percent slopes

Zimmerman

Extent: 90 percent of the unit

Landform(s): lake plains

Slope gradient: 6 to 12 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .24

Land capability, nonirrigated: 6s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,E --	0 to 15 in	loamy fine sand	rapid	1.50 to 1.80 in	5.1 to 6.5
E/Bt --	15 to 60 in	fine sand	rapid	2.69 to 4.49 in	5.1 to 7.3

158D--Zimmerman loamy fine sand, 12 to 25 percent slopes

Zimmerman

Extent: 90 percent of the unit

Landform(s): lake plains

Slope gradient: 12 to 25 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .24

Land capability, nonirrigated: 6s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,E --	0 to 15 in	loamy fine sand	rapid	1.50 to 1.80 in	5.1 to 6.5
E/Bt --	15 to 60 in	fine sand	rapid	2.69 to 4.49 in	5.1 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

159--Anoka loamy fine sand, 0 to 3 percent slopes

Anoka

Extent: 90 percent of the unit

Landform(s): outwash plains

Slope gradient: 0 to 3 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .24

Land capability, nonirrigated: 3s

Hydric soil: no

Hydrologic group: A

Potential for frost action: moderate

Representative soil profile:			Texture	Permeability	Available water capacity	pH
Ap --	0 to 9 in	loamy fine sand		rapid	1.18 to 1.45 in	5.6 to 6.5
E/Bt --	9 to 60 in	loamy fine sand		moderately rapid	5.08 to 8.13 in	5.1 to 6.5

159B--Anoka loamy fine sand, 3 to 9 percent slopes

Anoka

Extent: 90 percent of the unit

Landform(s): outwash plains

Slope gradient: 3 to 9 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .24

Land capability, nonirrigated: 4e

Hydric soil: no

Hydrologic group: A

Potential for frost action: moderate

Representative soil profile:			Texture	Permeability	Available water capacity	pH
Ap --	0 to 9 in	loamy fine sand		rapid	1.18 to 1.45 in	5.6 to 6.5
E/Bt --	9 to 60 in	loamy fine sand		moderately rapid	5.08 to 8.13 in	5.1 to 6.5

Map Unit Description (MN)

Washington County, Minnesota

161--Isanti loamy fine sand, depressional

Isanti, depressional

Extent: 85 percent of the unit

Landform(s): depressions on outwash plains

Slope gradient: 0 to 1 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .17

Land capability, nonirrigated: 6w

Hydric soil: yes

Hydrologic group: A/D

Potential for frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A1,A2 -- 0 to 13 in	loamy fine sand	rapid	1.30 to 1.56 in	5.1 to 6.5
Bg -- 13 to 42 in	fine sand	rapid	1.75 to 2.33 in	5.1 to 6.5
Cg -- 42 to 60 in	loamy fine sand	rapid	0.89 to 1.24 in	5.6 to 6.5

162--Lino loamy fine sand

Lino

Extent: 90 percent of the unit

Landform(s): outwash plains

Slope gradient: 0 to 3 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .20

Land capability, nonirrigated: 3s

Hydric soil: no

Hydrologic group: A/D

Potential for frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	loamy fine sand	rapid	0.91 to 1.09 in	5.1 to 6.0
Bw -- 9 to 36 in	loamy fine sand	rapid	1.61 to 2.14 in	5.1 to 6.0
C -- 36 to 60 in	fine sand	rapid	1.20 to 1.68 in	5.1 to 6.5

Map Unit Description (MN)

Washington County, Minnesota

166--Ronneby fine sandy loam

Ronneby

Extent: 90 percent of the unit

Landform(s): drainageways on moraines

Slope gradient: 0 to 2 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .28

Land capability, nonirrigated: 2w

Hydric soil: no

Hydrologic group: B/D

Potential for frost action: high

Representative soil profile:

		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 9 in	fine sandy loam	moderately rapid	1.18 to 1.63 in	5.1 to 6.5
E --	9 to 18 in	fine sandy loam	moderately rapid	1.09 to 1.72 in	5.1 to 6.5
Btg --	18 to 41 in	sandy loam	moderate	2.74 to 4.34 in	5.6 to 6.5
C --	41 to 60 in	sandy loam	moderately slow	1.51 to 3.02 in	5.6 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

169B--Braham loamy fine sand, 1 to 6 percent slopes

Braham

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 1 to 6 percent

Parent material: outwash over till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .28

Land capability, nonirrigated: 3s

Hydric soil: no

Hydrologic group: B

Potential for frost action: low

Representative soil profile:

			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 9 in		loamy fine sand	rapid	0.91 to 1.09 in	5.6 to 7.3
E --	9 to 28 in		loamy fine sand	rapid	1.51 to 1.89 in	5.6 to 7.3
2Bt --	28 to 39 in		sandy clay loam	moderate	1.65 to 1.98 in	5.1 to 7.3
2C --	39 to 60 in		loam	moderate	3.13 to 3.76 in	7.4 to 8.4

Map Unit Description (MN)

Washington County, Minnesota

169C--Braham loamy fine sand, 6 to 15 percent slopes

Braham

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 6 to 15 percent

Parent material: outwash over till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .28

Land capability, nonirrigated: 4e

Hydric soil: no

Hydrologic group: B

Potential for frost action: low

Representative soil profile:

			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 9 in		loamy fine sand	rapid	0.91 to 1.09 in	5.6 to 7.3
E --	9 to 28 in		loamy fine sand	rapid	1.51 to 1.89 in	5.6 to 7.3
2Bt --	28 to 39 in		sandy clay loam	moderate	1.65 to 1.98 in	5.1 to 7.3
2C --	39 to 60 in		loam	moderate	3.13 to 3.76 in	7.4 to 8.4

Map Unit Description (MN)

Washington County, Minnesota

170--Blomford loamy fine sand

Blomford

Extent: 85 percent of the unit

Landform(s): drainageways on moraines

Slope gradient: 0 to 3 percent

Parent material: outwash over till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .15

Land capability, nonirrigated: 3w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: moderate

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 9 in	loamy fine sand		rapid	0.72 to 1.09 in	5.1 to 7.3
Eg --	9 to 25 in	loamy fine sand		rapid	0.81 to 1.29 in	5.1 to 7.3
2Btg --	25 to 39 in	sandy clay loam		moderate	1.79 to 2.34 in	5.1 to 7.3
2C --	39 to 60 in	loam		moderate	2.09 to 3.13 in	6.6 to 8.4

Map Unit Description (MN)

Washington County, Minnesota

174C--Gale silt loam, 6 to 15 percent slopes

Gale

Extent: 90 percent of the unit

Landform(s): hills

Slope gradient: 6 to 15 percent

Parent material: loess over sandstone bedrock

Restrictive feature(s): paralithic bedrock at 20 to 40 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .49

Land capability, nonirrigated: 3e

Hydric soil: no

Hydrologic group: C

Potential for frost action: high

Representative soil profile:

		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 8 in	silt loam	moderate	1.73 to 1.89 in	4.5 to 7.3
Bt1,Bt2 --	8 to 26 in	silt loam	moderate	3.26 to 3.98 in	4.5 to 6.5
2Bt3 --	26 to 30 in	fine sandy loam	moderate	0.31 to 0.71 in	4.5 to 6.5
3R --	30 to 60 in	unweathered bedrock	moderately slow		

Map Unit Description (MN)

Washington County, Minnesota

174F--Gale silt loam, 25 to 50 percent slopes

Gale

Extent: 90 percent of the unit

Landform(s): hills

Slope gradient: 25 to 50 percent

Parent material: loess over sandstone bedrock

Restrictive feature(s): paralithic bedrock at 20 to 40 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .49

Land capability, nonirrigated: 7e

Hydric soil: no

Hydrologic group: C

Potential for frost action: high

Representative soil profile:

		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 8 in	silt loam	moderate	1.73 to 1.89 in	4.5 to 7.3
Bt1,Bt2 --	8 to 26 in	silt loam	moderate	3.26 to 3.98 in	4.5 to 6.5
2Bt3 --	26 to 30 in	fine sandy loam	moderate	0.31 to 0.71 in	4.5 to 6.5
3R --	30 to 60 in	unweathered bedrock	moderately slow		

Map Unit Description (MN)

Washington County, Minnesota

177B--Gotham loamy sand, 1 to 6 percent slopes

Gotham

Extent: 90 percent of the unit

Landform(s): pitted outwash plains

Slope gradient: 1 to 6 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .17

Land capability, nonirrigated: 4s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 9 in	loamy sand		rapid	0.91 to 1.09 in	5.6 to 7.3
E --	9 to 20 in	loamy sand		rapid	0.66 to 1.21 in	5.1 to 7.3
Bt --	20 to 33 in	loamy sand		rapid	1.17 to 1.43 in	5.1 to 7.3
C --	33 to 60 in	loamy sand		rapid	1.34 to 2.68 in	5.1 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

177C--Gotham loamy sand, 6 to 12 percent slopes

Gotham

Extent: 90 percent of the unit

Landform(s): pitted outwash plains

Slope gradient: 6 to 12 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .17

Land capability, nonirrigated: 6s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 9 in	loamy sand		rapid	0.91 to 1.09 in	5.6 to 7.3
E --	9 to 20 in	loamy sand		rapid	0.66 to 1.21 in	5.1 to 7.3
Bt --	20 to 33 in	loamy sand		rapid	1.17 to 1.43 in	5.1 to 7.3
C --	33 to 60 in	loamy sand		rapid	1.34 to 2.68 in	5.1 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

177D--Gotham loamy sand, 12 to 20 percent slopes

Gotham

Extent: 90 percent of the unit

Landform(s): pitted outwash plains

Slope gradient: 12 to 20 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .17

Land capability, nonirrigated: 6e

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 9 in	loamy sand		rapid	0.91 to 1.09 in	5.6 to 7.3
E --	9 to 20 in	loamy sand		rapid	0.66 to 1.21 in	5.1 to 7.3
Bt --	20 to 33 in	loamy sand		rapid	1.17 to 1.43 in	5.1 to 7.3
C --	33 to 60 in	loamy sand		rapid	1.34 to 2.68 in	5.1 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

189--Auburndale silt loam

Auburndale

Extent: 85 percent of the unit

Landform(s): drainageways on moraines, depressions on moraines

Slope gradient: 0 to 2 percent

Parent material: loess over till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: frequent

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .37

Land capability, nonirrigated: 6w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

Representative soil profile:

			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 7 in		silt loam	moderate	1.56 to 1.70 in	4.5 to 7.3
E,B/E --	7 to 17 in		silt loam	moderate	1.97 to 2.36 in	4.5 to 6.0
Bt --	17 to 45 in		silt loam	moderate	5.59 to 6.15 in	4.5 to 6.0
2C --	45 to 60 in		sandy loam	moderately slow	1.20 to 2.39 in	4.5 to 6.5

Map Unit Description (MN)

Washington County, Minnesota

225--Nessel fine sandy loam, 1 to 4 percent slopes

Nessel

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 1 to 4 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .28

Land capability, nonirrigated: 1

Hydric soil: no

Hydrologic group: C

Potential for frost action: high

Representative soil profile:

		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 4 in	fine sandy loam	moderately rapid	0.63 to 0.79 in	5.6 to 7.3
E --	4 to 13 in	fine sandy loam	moderately rapid	1.36 to 1.72 in	5.6 to 7.3
Bt --	13 to 41 in	loam	moderate	4.47 to 5.31 in	5.1 to 7.3
C --	41 to 60 in	fine sandy loam	moderate	3.21 to 3.59 in	7.4 to 8.4

Map Unit Description (MN)

Washington County, Minnesota

259B--Grays silt loam, 2 to 6 percent slopes

Grays

Extent: 90 percent of the unit

Landform(s): lake plains

Slope gradient: 2 to 6 percent

Parent material: lacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .37

Land capability, nonirrigated: 2e

Hydric soil: no

Hydrologic group: C

Potential for frost action: high

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 8 in	silt loam		moderate	1.73 to 1.89 in	5.6 to 7.3
E --	8 to 11 in	silt loam		moderate	0.69 to 0.76 in	5.6 to 6.5
Bt --	11 to 48 in	silty clay loam		moderate	6.66 to 7.40 in	5.6 to 6.5
C --	48 to 60 in	silt loam		moderate	1.65 to 2.60 in	7.4 to 8.4

Map Unit Description (MN)

Washington County, Minnesota

264--Freeon silt loam, 1 to 4 percent slopes

Freeon

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 1 to 4 percent

Parent material: loess over till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .43

Land capability, nonirrigated: 1

Hydric soil: no

Hydrologic group: C

Potential for frost action: moderate

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 8 in	silt loam	moderate	1.57 to 1.89 in	4.5 to 7.3
E, BE --	8 to 18 in	silt loam	moderate	1.84 to 2.25 in	4.5 to 7.3
Bt1, Bt2 --	18 to 30 in	silt loam	moderate	2.13 to 2.60 in	4.5 to 7.3
2Bt3 --	30 to 54 in	sandy loam	moderately slow	1.92 to 4.32 in	4.5 to 6.5
2BC, 2C --	54 to 60 in	sandy loam	moderately slow	0.47 to 0.94 in	5.1 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

265--Soderville loamy fine sand

Soderville

Extent: 90 percent of the unit

Landform(s): outwash plains

Slope gradient: 0 to 3 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .20

Land capability, nonirrigated: 3s

Hydric soil: no

Hydrologic group: A/D

Potential for frost action: moderate

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 8 in	loamy fine sand		rapid	0.79 to 0.94 in	5.1 to 6.5
E --	8 to 17 in	loamy fine sand		rapid	0.54 to 0.72 in	5.1 to 6.5
E/Bt --	17 to 47 in	loamy fine sand		rapid	1.80 to 3.29 in	5.1 to 6.5
C --	47 to 60 in	fine sand		rapid	0.65 to 1.30 in	5.1 to 6.5

Map Unit Description (MN)

Washington County, Minnesota

266--Freer silt loam

Freer

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 0 to 2 percent

Parent material: loess over till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .43

Land capability, nonirrigated: 2w

Hydric soil: no

Hydrologic group: C/D

Potential for frost action: high

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 8 in	silt loam		moderate	1.57 to 1.89 in	4.5 to 6.0
E --	8 to 12 in	silt loam		moderate	0.71 to 0.87 in	4.5 to 6.0
Bt1 --	12 to 23 in	loam		moderate	1.54 to 2.31 in	5.1 to 6.0
2Bt2 --	23 to 37 in	sandy loam		moderate	2.41 to 2.69 in	5.1 to 6.0
2C --	37 to 60 in	sandy loam		moderately slow	1.83 to 3.65 in	5.6 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

298--Richwood silt loam, 0 to 2 percent slopes

Richwood

Extent: 90 percent of the unit

Landform(s): outwash plains

Slope gradient: 0 to 2 percent

Parent material: loess over outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 4

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .37

Land capability, nonirrigated: 1

Hydric soil: no

Hydrologic group: B

Potential for frost action: high

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A	--	0 to 19 in	silt loam	moderate	4.16 to 4.54 in	5.6 to 7.3
Bt	--	19 to 49 in	silt loam	moderate	5.39 to 6.58 in	5.6 to 7.3
2C	--	49 to 60 in	sand	rapid	0.55 to 0.77 in	6.1 to 7.3

298B--Richwood silt loam, 2 to 6 percent slopes

Richwood

Extent: 90 percent of the unit

Landform(s): outwash plains

Slope gradient: 2 to 6 percent

Parent material: loess over outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 4

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .37

Land capability, nonirrigated: 2e

Hydric soil: no

Hydrologic group: B

Potential for frost action: high

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A	--	0 to 19 in	silt loam	moderate	4.16 to 4.54 in	5.6 to 7.3
Bt	--	19 to 49 in	silt loam	moderate	5.39 to 6.58 in	5.6 to 7.3
2C	--	49 to 60 in	sand	rapid	0.55 to 0.77 in	6.1 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

301B--Lindstrom silt loam, 2 to 4 percent slopes

Lindstrom

Extent: 90 percent of the unit

Landform(s): loess hills

Slope gradient: 2 to 4 percent

Parent material: loess

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .37

Land capability, nonirrigated: 2e

Hydric soil: no

Hydrologic group: B

Potential for frost action: high

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 9 in	silt loam		moderate	1.81 to 1.99 in	5.6 to 7.3
A,AB --	9 to 37 in	silt loam		moderate	6.15 to 7.27 in	5.6 to 7.3
Bw --	37 to 58 in	silt loam		moderate	4.17 to 4.59 in	5.6 to 7.3
C --	58 to 60 in	silt loam		moderate	0.33 to 0.37 in	6.6 to 7.8

Map Unit Description (MN)

Washington County, Minnesota

302B--Rosholt sandy loam, 1 to 6 percent slopes

Rosholt

Extent: 90 percent of the unit

Landform(s): outwash plains

Slope gradient: 1 to 6 percent

Parent material: loamy sediment over outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated: 2e

Hydric soil: no

Hydrologic group: A

Potential for frost action: moderate

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 11 in	sandy loam	moderately rapid	1.10 to 1.98 in	4.5 to 7.3
Bt --	11 to 21 in	sandy loam	moderately rapid	0.98 to 2.17 in	4.5 to 6.5
2Bt --	21 to 31 in	gravelly loamy coarse sand	moderately rapid	0.41 to 1.64 in	4.5 to 6.5
2C --	31 to 60 in	gravelly sand	rapid	0.57 to 1.15 in	5.1 to 6.5

Map Unit Description (MN)

Washington County, Minnesota

302C--Rosholt sandy loam, 6 to 15 percent slopes

Rosholt

Extent: 90 percent of the unit

Landform(s): outwash plains

Slope gradient: 6 to 15 percent

Parent material: loamy sediment over outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated: 3e

Hydric soil: no

Hydrologic group: A

Potential for frost action: moderate

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 11 in	sandy loam	moderately rapid	1.10 to 1.98 in	4.5 to 7.3
Bt --	11 to 21 in	sandy loam	moderately rapid	0.98 to 2.17 in	4.5 to 6.5
2Bt --	21 to 31 in	gravelly loamy coarse sand	moderately rapid	0.41 to 1.64 in	4.5 to 6.5
2C --	31 to 60 in	gravelly sand	rapid	0.57 to 1.15 in	5.1 to 6.5

325--Prebish loam

Prebish

Extent: 85 percent of the unit

Landform(s): depressions on moraines

Slope gradient: 0 to 1 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .32

Land capability, nonirrigated: 6w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 17 in	loam	moderate	3.05 to 3.72 in	5.6 to 7.3
Btg --	17 to 48 in	sandy loam	moderate	4.35 to 4.98 in	5.6 to 7.3
2C --	48 to 60 in	sandy loam	moderately slow	0.94 to 1.89 in	5.6 to 7.8

Map Unit Description (MN)

Washington County, Minnesota

327--Dickman sandy loam, 0 to 2 percent slopes

Dickman

Extent: 90 percent of the unit

Landform(s): outwash terraces

Slope gradient: 0 to 2 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 2

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated: 3s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A -- 0 to 14 in	sandy loam	moderately rapid	1.84 to 2.13 in	5.6 to 6.5
Bw -- 14 to 17 in	sandy loam	moderately rapid	0.33 to 0.39 in	5.6 to 7.3
2BC,2C -- 17 to 60 in	sand	rapid	0.86 to 3.00 in	5.6 to 7.8

327B--Dickman sandy loam, 2 to 6 percent slopes

Dickman

Extent: 90 percent of the unit

Landform(s): outwash terraces

Slope gradient: 2 to 6 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 2

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated: 3e

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A -- 0 to 14 in	sandy loam	moderately rapid	1.84 to 2.13 in	5.6 to 6.5
Bw -- 14 to 17 in	sandy loam	moderately rapid	0.33 to 0.39 in	5.6 to 7.3
2BC,2C -- 17 to 60 in	sand	rapid	0.86 to 3.00 in	5.6 to 7.8

Map Unit Description (MN)

Washington County, Minnesota

327C--Dickman sandy loam, 6 to 12 percent slopes

Dickman

Extent: 90 percent of the unit

Landform(s): outwash terraces

Slope gradient: 6 to 12 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 2

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated: 4e

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A -- 0 to 14 in	sandy loam	moderately rapid	1.84 to 2.13 in	5.6 to 6.5
Bw -- 14 to 17 in	sandy loam	moderately rapid	0.33 to 0.39 in	5.6 to 7.3
2BC,2C -- 17 to 60 in	sand	rapid	0.86 to 3.00 in	5.6 to 7.8

329--Chaska silt loam

Chaska

Extent: 90 percent of the unit

Landform(s): flood plains

Slope gradient: 0 to 2 percent

Parent material: alluvium

Restrictive feature(s): greater than 60 inches

Flooding: frequent

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .32

Land capability, nonirrigated: 4w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 6 in	silt loam	moderate	1.18 to 1.30 in	6.6 to 7.8
C1 -- 6 to 36 in	stratified very fine sandy loam to silt loam	moderate	5.15 to 5.76 in	7.4 to 7.8
C2 -- 36 to 60 in	stratified very fine sandy loam to loamy fine sand	moderately rapid	1.65 to 3.78 in	7.4 to 8.4

Map Unit Description (MN)

Washington County, Minnesota

340B--Whalan silt loam, 1 to 6 percent slopes

Whalan

Extent: 90 percent of the unit

Landform(s): loess hills

Slope gradient: 1 to 6 percent

Parent material: loamy sediment over limestone bedrock

Restrictive feature(s): paralithic bedrock at 20 to 40 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .37

Land capability, nonirrigated: 2e

Hydric soil: no

Hydrologic group: C

Potential for frost action: moderate

Representative soil profile:

			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A,E --	0 to 12 in	silt loam		moderate	2.36 to 2.60 in	5.6 to 7.3
Bt1 --	12 to 18 in	loam		moderate	1.07 to 1.20 in	5.1 to 6.5
2Bt2 --	18 to 26 in	loam		moderate	1.18 to 1.50 in	5.6 to 7.8
3R --	26 to 30 in	weathered bedrock		moderately slow		

Map Unit Description (MN)

Washington County, Minnesota

340C--Whalan silt loam, 6 to 12 percent slopes

Whalan

Extent: 90 percent of the unit

Landform(s): loess hills

Slope gradient: 6 to 12 percent

Parent material: loamy sediment over limestone bedrock

Restrictive feature(s): paralithic bedrock at 20 to 40 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .37

Land capability, nonirrigated: 3e

Hydric soil: no

Hydrologic group: C

Potential for frost action: moderate

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A,E --	0 to 12 in	silt loam	moderate	2.36 to 2.60 in	5.6 to 7.3
Bt1 --	12 to 18 in	loam	moderate	1.07 to 1.20 in	5.1 to 6.5
2Bt2 --	18 to 26 in	loam	moderate	1.18 to 1.50 in	5.6 to 7.8
3R --	26 to 30 in	weathered bedrock	moderately slow		

342B--Kingsley sandy loam, 2 to 6 percent slopes

Kingsley

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 2 to 6 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .24

Land capability, nonirrigated: 2e

Hydric soil: no

Hydrologic group: C

Potential for frost action: low

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 8 in	sandy loam	moderate	0.79 to 1.42 in	5.6 to 6.5
Bt --	8 to 39 in	sandy loam	moderately slow	4.04 to 4.98 in	5.1 to 7.3
C --	39 to 60 in	sandy loam	moderately slow	2.30 to 2.92 in	5.6 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

342C--Kingsley sandy loam, 6 to 12 percent slopes

Kingsley

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 6 to 12 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .24

Land capability, nonirrigated: 3e

Hydric soil: no

Hydrologic group: C

Potential for frost action: low

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 6 in	sandy loam		moderate	0.59 to 1.06 in	5.6 to 6.5
Bt --	6 to 32 in	sandy loam		moderately slow	3.38 to 4.16 in	5.1 to 7.3
C --	32 to 60 in	sandy loam		moderately slow	3.07 to 3.91 in	5.6 to 7.3

342D--Kingsley sandy loam, 12 to 18 percent slopes

Kingsley

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 12 to 18 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .24

Land capability, nonirrigated: 4e

Hydric soil: no

Hydrologic group: C

Potential for frost action: low

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 3 in	sandy loam		moderate	0.31 to 0.57 in	5.6 to 6.5
E --	3 to 6 in	sandy loam		moderately slow	0.28 to 0.41 in	5.1 to 7.3
Bt --	6 to 25 in	sandy loam		moderately slow	2.51 to 3.09 in	5.1 to 7.3
C --	25 to 60 in	sandy loam		moderately slow	3.81 to 4.85 in	5.6 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

342E--Kingsley sandy loam, 18 to 30 percent slopes

Kingsley

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 18 to 30 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .24

Land capability, nonirrigated: 6e

Hydric soil: no

Hydrologic group: C

Potential for frost action: low

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 3 in	sandy loam		moderate	0.31 to 0.57 in	5.6 to 6.5
E --	3 to 6 in	sandy loam		moderately slow	0.28 to 0.41 in	5.1 to 7.3
Bt --	6 to 20 in	sandy loam		moderately slow	1.84 to 2.27 in	5.1 to 7.3
C --	20 to 60 in	sandy loam		moderately slow	4.37 to 5.57 in	5.6 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

367B--Campia silt loam, 0 to 8 percent slopes

Campia

Extent: 90 percent of the unit

Landform(s): lake plains

Slope gradient: 0 to 8 percent

Parent material: lacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .49

Land capability, nonirrigated: 2e

Hydric soil: no

Hydrologic group: B

Potential for frost action: high

Representative soil profile:

			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 8 in	silt loam		moderate	1.57 to 1.89 in	4.5 to 7.3
E --	8 to 12 in	silt loam		moderate	0.79 to 0.87 in	4.5 to 6.5
B/E --	12 to 15 in	silt loam		moderate	0.50 to 0.69 in	4.5 to 6.5
Bt --	15 to 40 in	silt loam		moderate	4.03 to 5.54 in	4.5 to 6.5
C --	40 to 60 in	silt loam		moderate	2.76 to 3.94 in	5.1 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

408--Faxon silt loam

Faxon

Extent: 85 percent of the unit

Landform(s): drainageways on terraces

Slope gradient: 0 to 2 percent

Parent material: loamy sediment over bedrock

Restrictive feature(s): lithic bedrock at 20 to 40 inches

Flooding: frequent

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 2

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .28

Land capability, nonirrigated: 5w

Hydric soil: yes

Hydrologic group: C/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 19 in	silt loam	moderate	3.78 to 4.54 in	6.6 to 7.8
Bg -- 19 to 34 in	silt loam	moderate	1.80 to 2.84 in	6.6 to 7.8
2R -- 34 to 38 in	unweathered bedrock	moderately slow		

411--Waukegan silt loam, 0 to 2 percent slopes

Waukegan

Extent: 90 percent of the unit

Landform(s): outwash plains, outwash terraces

Slope gradient: 0 to 2 percent

Parent material: glaciofluvial sediments over outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .37

Land capability, nonirrigated: 2s

Hydric soil: no

Hydrologic group: B

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 10 in	silt loam	moderate	2.17 to 2.36 in	5.6 to 7.3
Bw -- 10 to 24 in	silt loam	moderate	2.83 to 3.12 in	5.1 to 7.3
2BC,2C -- 24 to 60 in	coarse sand	rapid	0.72 to 1.43 in	5.6 to 7.8

Map Unit Description (MN)

Washington County, Minnesota

411B--Waukegan silt loam, 2 to 6 percent slopes

Waukegan

Extent: 90 percent of the unit

Landform(s): outwash plains, outwash terraces

Slope gradient: 2 to 6 percent

Parent material: glaciofluvial sediments over outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .37

Land capability, nonirrigated: 2e

Hydric soil: no

Hydrologic group: B

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 10 in	silt loam	moderate	2.17 to 2.36 in	5.6 to 7.3
Bw -- 10 to 24 in	silt loam	moderate	2.83 to 3.12 in	5.1 to 7.3
2BC,2C -- 24 to 60 in	coarse sand	rapid	0.72 to 1.43 in	5.6 to 7.8

411C--Waukegan silt loam, 6 to 12 percent slopes

Waukegan

Extent: 90 percent of the unit

Landform(s): outwash plains, outwash terraces

Slope gradient: 6 to 12 percent

Parent material: glaciofluvial sediments over outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .37

Land capability, nonirrigated: 3e

Hydric soil: no

Hydrologic group: B

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 10 in	silt loam	moderate	2.17 to 2.36 in	5.6 to 7.3
Bw -- 10 to 24 in	silt loam	moderate	2.83 to 3.12 in	5.1 to 7.3
2BC,2C -- 24 to 60 in	coarse sand	rapid	0.72 to 1.43 in	5.6 to 7.8

Map Unit Description (MN)

Washington County, Minnesota

449--Crystal Lake silt loam, 1 to 3 percent slopes

Crystal Lake

Extent: 90 percent of the unit

Landform(s): lake plains

Slope gradient: 1 to 3 percent

Parent material: loess

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .43

Land capability, nonirrigated: 2e

Hydric soil: no

Hydrologic group: C

Potential for frost action: high

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 9 in	silt loam		moderate	1.81 to 2.17 in	4.5 to 7.3
B/E --	9 to 23 in	silt loam		moderate	2.48 to 3.03 in	4.5 to 6.0
Bt --	23 to 38 in	silt loam		moderate	2.69 to 3.29 in	4.5 to 6.0
C --	38 to 60 in	silt loam		moderate	4.41 to 4.85 in	4.5 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

452--Comstock silt loam

Comstock

Extent: 90 percent of the unit

Landform(s): lake plains

Slope gradient: 0 to 3 percent

Parent material: lacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .43

Land capability, nonirrigated: 2w

Hydric soil: no

Hydrologic group: B/D

Potential for frost action: high

Representative soil profile:

		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 10 in	silt loam	moderate	1.97 to 2.36 in	4.5 to 7.3
E --	10 to 19 in	silt loam	moderate	1.81 to 1.99 in	4.5 to 6.0
B/E --	19 to 24 in	silt loam	moderate	0.92 to 1.13 in	4.5 to 6.0
Bt --	24 to 40 in	silt loam	moderate	2.91 to 3.55 in	4.5 to 6.0
BC --	40 to 52 in	silt loam	moderate	1.42 to 2.60 in	4.5 to 6.0
C --	52 to 60 in	silt loam	moderate	0.94 to 1.73 in	5.1 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

453B--DeMontreville loamy fine sand, 2 to 6 percent slopes

DeMontreville

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 2 to 6 percent

Parent material: outwash over till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .32

Land capability, nonirrigated: 3s

Hydric soil: no

Hydrologic group: C

Potential for frost action: low

Representative soil profile:

			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 7 in		loamy fine sand	rapid	0.71 to 0.85 in	5.1 to 7.3
E, BE --	7 to 24 in		loamy sand	rapid	1.02 to 1.69 in	5.1 to 7.3
2Bt --	24 to 41 in		sandy loam	moderately slow	1.69 to 2.37 in	5.6 to 6.5
2C --	41 to 60 in		sandy loam	moderately slow	1.51 to 2.46 in	5.6 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

453C--DeMontreville loamy fine sand, 6 to 12 percent slopes

DeMontreville

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 6 to 12 percent

Parent material: outwash over till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .32

Land capability, nonirrigated: 4e

Hydric soil: no

Hydrologic group: C

Potential for frost action: low

Representative soil profile:

			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 6 in		loamy fine sand	rapid	0.59 to 0.71 in	5.1 to 7.3
E, BE --	6 to 24 in		loamy sand	rapid	1.09 to 1.81 in	5.1 to 7.3
2Bt --	24 to 40 in		sandy loam	moderately slow	1.61 to 2.26 in	5.6 to 6.5
2C --	40 to 60 in		sandy loam	moderately slow	1.57 to 2.56 in	5.6 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

453D--DeMontreville loamy fine sand, 12 to 25 percent slopes

DeMontreville

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 12 to 25 percent

Parent material: outwash over till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .32

Land capability, nonirrigated: 6e

Hydric soil: no

Hydrologic group: C

Potential for frost action: low

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 4 in	loamy fine sand		rapid	0.39 to 0.47 in	5.1 to 7.3
E, BE --	4 to 24 in	loamy sand		rapid	1.20 to 2.01 in	5.1 to 7.3
2Bt --	24 to 39 in	sandy loam		moderately slow	1.50 to 2.09 in	5.6 to 6.5
2C --	39 to 60 in	sandy loam		moderately slow	1.67 to 2.71 in	5.6 to 7.3

454B--Mahtomedi loamy sand, 0 to 6 percent slopes

Mahtomedi

Extent: 90 percent of the unit

Landform(s): outwash plains

Slope gradient: 0 to 6 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .10

Land capability, nonirrigated: 4s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 8 in	loamy sand		rapid	0.79 to 0.94 in	5.1 to 6.5
Bw --	8 to 30 in	gravelly coarse sand		rapid	1.10 to 1.54 in	5.1 to 6.5
C --	30 to 60 in	gravelly sand		rapid	1.20 to 2.69 in	5.1 to 7.8

Map Unit Description (MN)

Washington County, Minnesota

454C--Mahtomedi loamy sand, 6 to 12 percent slopes

Mahtomedi

Extent: 90 percent of the unit

Landform(s): outwash plains

Slope gradient: 6 to 12 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .10

Land capability, nonirrigated: 6s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 8 in	loamy sand		rapid	0.79 to 0.94 in	5.1 to 6.5
Bw --	8 to 30 in	gravelly coarse sand		rapid	1.10 to 1.54 in	5.1 to 6.5
C --	30 to 60 in	gravelly sand		rapid	1.20 to 2.69 in	5.1 to 7.8

454D--Mahtomedi loamy sand, 12 to 25 percent slopes

Mahtomedi

Extent: 90 percent of the unit

Landform(s): outwash plains

Slope gradient: 12 to 25 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .10

Land capability, nonirrigated: 6s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 5 in	loamy sand		rapid	0.51 to 0.61 in	5.1 to 6.5
E --	5 to 8 in	sand		rapid	0.14 to 0.28 in	5.1 to 6.5
Bw --	8 to 30 in	gravelly coarse sand		rapid	1.10 to 1.54 in	5.1 to 6.5
C --	30 to 60 in	gravelly sand		rapid	1.20 to 2.69 in	5.1 to 7.8

Map Unit Description (MN)

Washington County, Minnesota

454F--Mahtomedi loamy sand, 25 to 40 percent slopes

Mahtomedi

Extent: 90 percent of the unit

Landform(s): outwash plains

Slope gradient: 25 to 40 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .10

Land capability, nonirrigated: 7s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 3 in	loamy sand		rapid	0.31 to 0.38 in	5.1 to 6.5
Bw --	3 to 23 in	gravelly coarse sand		rapid	0.98 to 1.38 in	5.1 to 6.5
C --	23 to 60 in	gravelly sand		rapid	1.48 to 3.33 in	5.1 to 7.8

Map Unit Description (MN)

Washington County, Minnesota

456--Barronett silt loam

Barronett

Extent: 85 percent of the unit

Landform(s): drainageways on lake plains, depressions on lake plains

Slope gradient: 0 to 2 percent

Parent material: lacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .43

Land capability, nonirrigated: 3w

Hydric soil: yes

Hydrologic group: C/D

Potential for frost action: high

Representative soil profile:

			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 7 in	silt loam		moderate	1.42 to 1.84 in	4.5 to 7.3
E --	7 to 12 in	silt loam		moderate	0.85 to 1.04 in	4.5 to 6.5
Bt --	12 to 30 in	silty clay loam		moderate	3.26 to 3.98 in	4.5 to 6.5
BC --	30 to 39 in	silt loam		moderate	1.63 to 1.99 in	6.1 to 7.8
C --	39 to 60 in	silt loam		moderately slow	3.34 to 4.59 in	6.1 to 7.8

Map Unit Description (MN)

Washington County, Minnesota

460B--Baytown silt loam, 1 to 6 percent slopes

Baytown

Extent: 90 percent of the unit

Landform(s): hills

Slope gradient: 1 to 6 percent

Parent material: loess over sandstone bedrock

Restrictive feature(s): paralithic bedrock at 20 to 40 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .37

Land capability, nonirrigated: 2e

Hydric soil: no

Hydrologic group: C

Potential for frost action: high

Representative soil profile:

			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A1 --	0 to 19 in	silt loam		moderate	4.16 to 4.54 in	5.1 to 7.3
Bw --	19 to 32 in	loam		moderate	2.21 to 2.86 in	4.5 to 6.5
2BC --	32 to 36 in	loamy sand		rapid	0.20 to 0.39 in	5.1 to 6.5
3Cr --	36 to 46 in	unweathered bedrock		moderate		

Map Unit Description (MN)

Washington County, Minnesota

460C--Baytown silt loam, 6 to 12 percent slopes

Baytown

Extent: 90 percent of the unit

Landform(s): hills

Slope gradient: 6 to 12 percent

Parent material: loess over sandstone bedrock

Restrictive feature(s): paralithic bedrock at 20 to 40 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .37

Land capability, nonirrigated: 3e

Hydric soil: no

Hydrologic group: C

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A1 -- 0 to 19 in	silt loam	moderate	4.16 to 4.54 in	5.1 to 7.3
Bw -- 19 to 32 in	loam	moderate	2.21 to 2.86 in	4.5 to 6.5
2BC -- 32 to 36 in	loamy sand	rapid	0.20 to 0.39 in	5.1 to 6.5
3Cr -- 36 to 46 in	unweathered bedrock	moderate		

468--Otter silt loam

Otter

Extent: 85 percent of the unit

Landform(s): drainageways on loess hills

Slope gradient: 0 to 2 percent

Parent material: alluvium

Restrictive feature(s): greater than 60 inches

Flooding: occasional

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .32

Land capability, nonirrigated: 2w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A1 -- 0 to 38 in	silt loam	moderate	8.31 to 9.07 in	6.1 to 7.8
AC -- 38 to 60 in	silt loam	moderate	3.31 to 4.41 in	6.1 to 8.4

Map Unit Description (MN)

Washington County, Minnesota

472B--Channahon silt loam, 1 to 6 percent slopes

Channahon

Extent: 90 percent of the unit

Landform(s): hills, terraces

Slope gradient: 1 to 6 percent

Parent material: silty sediments over limestone bedrock

Restrictive feature(s): lithic bedrock at 10 to 20 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 1

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .37

Land capability, nonirrigated: 3e

Hydric soil: no

Hydrologic group: D

Potential for frost action: moderate

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 8 in	silt loam		moderate	1.18 to 1.81 in	6.1 to 8.4
Bt --	8 to 18 in	silt loam		moderate	1.54 to 2.25 in	6.1 to 8.4
2R --	18 to 60 in	unweathered bedrock		moderately slow		

472C--Channahon silt loam, 6 to 12 percent slopes

Channahon

Extent: 90 percent of the unit

Landform(s): hills, terraces

Slope gradient: 6 to 12 percent

Parent material: silty sediments over limestone bedrock

Restrictive feature(s): lithic bedrock at 10 to 20 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 1

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .37

Land capability, nonirrigated: 6e

Hydric soil: no

Hydrologic group: D

Potential for frost action: moderate

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 8 in	silt loam		moderate	1.18 to 1.81 in	6.1 to 8.4
Bt --	8 to 18 in	silt loam		moderate	1.54 to 2.25 in	6.1 to 8.4
2R --	18 to 60 in	unweathered bedrock		moderately slow		

Map Unit Description (MN)

Washington County, Minnesota

472D--Channahon silt loam, 12 to 18 percent slopes

Channahon

Extent: 90 percent of the unit

Landform(s): hills, terraces

Slope gradient: 12 to 18 percent

Parent material: silty sediments over limestone bedrock

Restrictive feature(s): lithic bedrock at 10 to 20 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 1

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .37

Land capability, nonirrigated: 6e

Hydric soil: no

Hydrologic group: D

Potential for frost action: moderate

Representative soil profile:

			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 8 in	silt loam		moderate	1.18 to 1.81 in	6.1 to 8.4
Bt --	8 to 18 in	silt loam		moderate	1.54 to 2.25 in	6.1 to 8.4
2R --	18 to 60 in	unweathered bedrock		moderately slow		

Map Unit Description (MN)

Washington County, Minnesota

481--Kratka fine sandy loam

Kratka

Extent: 90 percent of the unit

Landform(s): drainageways on moraines, depressions on moraines

Slope gradient: 0 to 1 percent

Parent material: outwash over till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: frequent

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated: 4w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: moderate

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A1 --	0 to 11 in		fine sandy loam	moderately rapid	1.43 to 1.98 in	5.6 to 6.5
A2 --	11 to 14 in		loamy fine sand	rapid	0.19 to 0.44 in	5.6 to 6.5
Bg --	14 to 29 in		fine sand	rapid	0.75 to 1.50 in	5.6 to 7.3
2Cg --	29 to 60 in		sandy clay loam	moderate	3.38 to 5.83 in	6.1 to 8.4

Map Unit Description (MN)

Washington County, Minnesota

488F--Brodale flaggy loam, 20 to 50 percent slopes

Brodale

Extent: 100 percent of the unit

Landform(s): hills, terraces

Slope gradient: 20 to 50 percent

Parent material: colluvium over limestone bedrock

Restrictive feature(s): lithic bedrock at 40 to 80 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 2

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .15

Land capability, nonirrigated: 7s

Hydric soil: no

Hydrologic group: B

Potential for frost action: low

Representative soil profile:

		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 7 in	flaggy loam	moderate	0.43 to 0.85 in	6.6 to 8.4
Bw --	7 to 13 in	flaggy very fine sandy loam	moderately rapid	0.24 to 0.53 in	6.6 to 8.4
C --	13 to 50 in	very flaggy very fine sandy loam	moderately rapid	1.48 to 3.33 in	7.4 to 8.4
2R --	50 to 60 in	unweathered bedrock	rapid		

Map Unit Description (MN)

Washington County, Minnesota

504B--Duluth silt loam, 1 to 6 percent slopes

Duluth

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 1 to 6 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .43

Land capability, nonirrigated: 2e

Hydric soil: no

Hydrologic group: C

Potential for frost action: moderate

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 9 in	silt loam		moderate	1.81 to 2.17 in	5.6 to 6.5
B/E --	9 to 14 in	loam		moderately slow	0.77 to 0.97 in	5.6 to 6.5
Bt --	14 to 50 in	loam		slow	5.37 to 6.81 in	5.1 to 6.5
C --	50 to 60 in	loam		slow	1.38 to 1.87 in	6.1 to 7.8

Map Unit Description (MN)

Washington County, Minnesota

504C--Duluth silt loam, 6 to 12 percent slopes

Duluth

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 6 to 12 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .37

Land capability, nonirrigated: 3e

Hydric soil: no

Hydrologic group: C

Potential for frost action: moderate

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 4 in	silt loam		moderate	0.79 to 0.94 in	5.6 to 6.5
E,B/E --	4 to 24 in	loam		moderately slow	3.01 to 3.81 in	5.6 to 6.5
Bt --	24 to 41 in	loam		slow	2.54 to 3.22 in	5.1 to 6.5
C --	41 to 60 in	loam		slow	2.65 to 3.59 in	6.1 to 7.8

Map Unit Description (MN)

Washington County, Minnesota

504D--Duluth silt loam, 12 to 25 percent slopes

Duluth

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 12 to 25 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .43

Land capability, nonirrigated: 6e

Hydric soil: no

Hydrologic group: C

Potential for frost action: moderate

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 4 in	silt loam		moderate	0.79 to 0.94 in	5.6 to 6.5
E,B/E --	4 to 14 in	loam		moderately slow	1.54 to 1.94 in	5.6 to 6.5
Bt --	14 to 31 in	loam		slow	2.54 to 3.22 in	5.1 to 6.5
C --	31 to 60 in	loam		slow	4.02 to 5.46 in	6.1 to 7.8

Map Unit Description (MN)

Washington County, Minnesota

507--Poskin silt loam

Poskin

Extent: 90 percent of the unit

Landform(s): drainageways on outwash plains

Slope gradient: 0 to 2 percent

Parent material: alluvium over outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .43

Land capability, nonirrigated: 2w

Hydric soil: no

Hydrologic group: B/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A -- 0 to 13 in	silt loam	moderate	2.73 to 3.12 in	5.1 to 7.3
Bt -- 13 to 28 in	silt loam	moderate	2.54 to 3.29 in	5.1 to 6.5
BC -- 28 to 33 in	loam	moderately rapid	0.26 to 1.13 in	5.6 to 6.5
2C -- 33 to 60 in	gravelly coarse sand	rapid	0.54 to 1.87 in	5.6 to 7.3

529--Ripon silt loam, 1 to 2 percent slopes

Ripon

Extent: 90 percent of the unit

Landform(s): hills, terraces

Slope gradient: 1 to 2 percent

Parent material: loess over limestone bedrock

Restrictive feature(s): lithic bedrock at 20 to 40 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 2

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .43

Land capability, nonirrigated: 2s

Hydric soil: no

Hydrologic group: C

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 13 in	silt loam	moderate	2.86 to 3.12 in	5.6 to 7.8
Bt -- 13 to 26 in	silt loam	moderate	2.60 to 2.86 in	5.6 to 7.8
2R -- 26 to 30 in	unweathered bedrock	moderate		

Map Unit Description (MN)

Washington County, Minnesota

529B--Ripon silt loam, 2 to 6 percent slopes

Ripon

Extent: 90 percent of the unit

Landform(s): hills, terraces

Slope gradient: 2 to 6 percent

Parent material: loess over limestone bedrock

Restrictive feature(s): lithic bedrock at 20 to 40 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 2

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .43

Land capability, nonirrigated: 2e

Hydric soil: no

Hydrologic group: C

Potential for frost action: high

Representative soil profile:		Texture	Permeability	Available water capacity	pH
A --	0 to 10 in	silt loam	moderate	2.17 to 2.36 in	5.6 to 7.8
Bt --	10 to 28 in	silt loam	moderate	3.62 to 3.98 in	5.6 to 7.8
2R --	28 to 32 in	unweathered bedrock	moderate		

529C--Ripon silt loam, 6 to 12 percent slopes

Ripon

Extent: 90 percent of the unit

Landform(s): hills, terraces

Slope gradient: 6 to 12 percent

Parent material: loess over limestone bedrock

Restrictive feature(s): lithic bedrock at 20 to 40 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 2

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .43

Land capability, nonirrigated: 3e

Hydric soil: no

Hydrologic group: C

Potential for frost action: high

Representative soil profile:		Texture	Permeability	Available water capacity	pH
A --	0 to 11 in	silt loam	moderate	2.43 to 2.65 in	5.6 to 7.8
Bt --	11 to 24 in	silt loam	moderate	2.60 to 2.86 in	5.6 to 7.8
2R --	24 to 28 in	unweathered bedrock	moderate		

Map Unit Description (MN)

Washington County, Minnesota

540--Seelyeville muck

Seelyeville

Extent: 85 percent of the unit

Landform(s): depressions

Slope gradient: 0 to 1 percent

Parent material: organic material

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 2

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .02

Land capability, nonirrigated: 6w

Hydric soil: yes

Hydrologic group: A/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 60 in	muck	moderately rapid	20.94 to 26.93 in	

541--Rifle muck

Rifle

Extent: 85 percent of the unit

Landform(s): depressions

Slope gradient: 0 to 2 percent

Parent material: organic material

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 2

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .02

Land capability, nonirrigated: 6w

Hydric soil: yes

Hydrologic group: A/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 9 in	muck	moderately rapid	3.17 to 4.35 in	
Oe -- 9 to 60 in	mucky peat	rapid	24.38 to 29.46 in	

Map Unit Description (MN)

Washington County, Minnesota

543--Markey muck

Markey

Extent: 85 percent of the unit

Landform(s): depressions

Slope gradient: 0 to 2 percent

Parent material: organic material over outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 1

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .02

Land capability, nonirrigated: 6w

Hydric soil: yes

Hydrologic group: A/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 30 in	muck	moderately rapid	10.47 to 13.46 in	
2A,2Cg -- 30 to 60 in	stratified sand to fine sand to loamy very fine sand	rapid	0.90 to 2.39 in	6.1 to 8.4

544--Cathro muck

Cathro

Extent: 85 percent of the unit

Landform(s): depressions

Slope gradient: 0 to 2 percent

Parent material: organic material over loamy sediment

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 1

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .02

Land capability, nonirrigated: 6w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa1 -- 0 to 13 in	muck	moderately rapid	5.85 to 7.15 in	
Oa2 -- 13 to 38 in	muck	moderately rapid	8.68 to 11.16 in	
2A,2Cg -- 38 to 60 in	loam	moderate	2.43 to 4.19 in	6.6 to 8.4

Map Unit Description (MN)

Washington County, Minnesota

852B--Urban land-Copaston complex, 0 to 8 percent slopes

Urban land

Extent: 65 percent of the unit

Landform(s): terraces

Slope gradient: 0 to 8 percent

Parent material:

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw factor (surface layer)

Land capability, nonirrigated:

Hydric soil: no

Hydrologic group:

Potential for frost action:

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

Copaston

Extent: 35 percent of the unit

Landform(s): terraces

Slope gradient: 0 to 8 percent

Parent material: loamy sediment over bedrock

Restrictive feature(s): lithic bedrock at 12 to 20 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 1

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .28

Land capability, nonirrigated: 3e

Hydric soil: no

Hydrologic group: D

Potential for frost action: moderate

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

A --	0 to 8 in	loam	moderate	1.57 to 1.73 in	5.6 to 7.3
Bw1 --	8 to 14 in	sandy loam	moderately rapid	0.94 to 1.07 in	5.6 to 7.3
Bw2 --	14 to 18 in	sandy loam	moderately rapid	0.47 to 0.55 in	5.6 to 7.8
2R --	18 to 22 in	unweathered bedrock	moderate		

Map Unit Description (MN)

Washington County, Minnesota

857--Urban land-Waukegan complex, 0 to 3 percent slopes

Urban land

Extent: 65 percent of the unit

Landform(s): outwash plains, outwash terraces

Slope gradient: 0 to 3 percent

Parent material:

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw factor (surface layer)

Land capability, nonirrigated:

Hydric soil: unranked

Hydrologic group:

Potential for frost action:

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

Waukegan

Extent: 35 percent of the unit

Landform(s): outwash plains, outwash terraces

Slope gradient: 0 to 3 percent

Parent material: glaciofluvial sediments over outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .37

Land capability, nonirrigated: 2s

Hydric soil: no

Hydrologic group: B

Potential for frost action: low

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

Ap --	0 to 10 in	silt loam	moderate	2.17 to 2.36 in	5.6 to 7.3
Bw --	10 to 24 in	silt loam	moderate	2.83 to 3.12 in	5.1 to 7.3
2BC,2C --	24 to 60 in	coarse sand	rapid	0.72 to 1.43 in	5.6 to 7.8

Map Unit Description (MN)

Washington County, Minnesota

857C--Urban land-Waukegan complex, 3 to 15 percent slopes

Urban land

Extent: 65 percent of the unit

Landform(s): outwash plains, outwash terraces

Slope gradient: 3 to 15 percent

Parent material:

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw factor (surface layer)

Land capability, nonirrigated:

Hydric soil: no

Hydrologic group:

Potential for frost action:

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

Waukegan

Extent: 35 percent of the unit

Landform(s): outwash plains, outwash terraces

Slope gradient: 3 to 15 percent

Parent material: glaciofluvial sediments over outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .37

Land capability, nonirrigated: 3e

Hydric soil: no

Hydrologic group: B

Potential for frost action: low

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

Ap --	0 to 10 in	silt loam	moderate	2.17 to 2.36 in	5.6 to 7.3
Bw --	10 to 24 in	silt loam	moderate	2.83 to 3.12 in	5.1 to 7.3
2BC,2C --	24 to 60 in	coarse sand	rapid	0.72 to 1.43 in	5.6 to 7.8

Map Unit Description (MN)

Washington County, Minnesota

858--Urban land-Chetek complex, 0 to 3 percent slopes

Urban land

Extent: 65 percent of the unit

Landform(s): outwash plains

Slope gradient: 0 to 3 percent

Parent material:

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw factor (surface layer)

Land capability, nonirrigated:

Hydric soil: unranked

Hydrologic group:

Potential for frost action:

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

Chetek

Extent: 35 percent of the unit

Landform(s): outwash plains

Slope gradient: 0 to 3 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated: 3s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

Ap --	0 to 6 in	sandy loam	moderately rapid	0.59 to 0.89 in	5.1 to 7.3
Bt --	6 to 20 in	gravelly sandy loam	moderately rapid	1.13 to 1.84 in	5.1 to 7.3
2C --	20 to 60 in	gravelly coarse sand	rapid	0.80 to 1.59 in	5.1 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

858C--Urban land-Chetek complex, 3 to 15 percent slopes

Urban land

Extent: 65 percent of the unit

Landform(s): outwash plains

Slope gradient: 3 to 15 percent

Parent material:

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw factor (surface layer)

Land capability, nonirrigated:

Hydric soil: no

Hydrologic group:

Potential for frost action:

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

Chetek

Extent: 35 percent of the unit

Landform(s): outwash plains

Slope gradient: 3 to 15 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 2

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated: 4e

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

Ap --	0 to 6 in	sandy loam	moderately rapid	0.59 to 0.89 in	5.1 to 7.3
Bt --	6 to 18 in	gravelly sandy loam	moderately rapid	0.98 to 1.59 in	5.1 to 7.3
2C --	18 to 60 in	gravelly coarse sand	rapid	0.83 to 1.67 in	5.1 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

859B--Urban land-Zimmerman complex, 1 to 8 percent slopes

Urban land

Extent: 60 percent of the unit

Landform(s): outwash plains

Slope gradient: 1 to 8 percent

Parent material:

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw factor (surface layer)

Land capability, nonirrigated:

Hydric soil: no

Hydrologic group:

Potential for frost action:

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

Zimmerman

Extent: 35 percent of the unit

Landform(s): outwash plains

Slope gradient: 1 to 8 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .24

Land capability, nonirrigated: 4s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

A,E -- 0 to 15 in loamy fine sand

rapid

1.50 to 1.80 in

5.1 to 6.5

E/Bt -- 15 to 60 in fine sand

rapid

2.69 to 4.49 in

5.1 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

860C--Urban land-Hayden-Kingsley complex, 3 to 15 percent slopes

Urban land

Extent: 55 percent of the unit

Landform(s): moraines

Slope gradient: 3 to 15 percent

Parent material:

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw factor (surface layer)

Land capability, nonirrigated:

Hydric soil: no

Hydrologic group:

Potential for frost action:

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

Hayden

Extent: 25 percent of the unit

Landform(s): moraines

Slope gradient: 3 to 15 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated: 3e

Hydric soil: no

Hydrologic group: B

Potential for frost action: moderate

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

Ap --	0 to 9 in	fine sandy loam	moderately rapid	1.27 to 1.63 in	5.6 to 7.3
E --	9 to 15 in	fine sandy loam	moderately rapid	0.71 to 1.06 in	5.6 to 7.3
Bt --	15 to 50 in	clay loam	moderate	5.26 to 6.66 in	5.1 to 7.3
C --	50 to 60 in	loam	moderate	1.38 to 1.87 in	7.4 to 8.4

Map Unit Description (MN)

Washington County, Minnesota

860C--Urban land-Hayden-Kingsley complex, 3 to 15 percent slopes

Kingsley

Extent: 15 percent of the unit

Landform(s): moraines

Slope gradient: 3 to 15 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .24

Land capability, nonirrigated: 3e

Hydric soil: no

Hydrologic group: C

Potential for frost action: low

Representative soil profile:

			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 8 in		sandy loam	moderate	0.79 to 1.42 in	5.6 to 6.5
Bt --	8 to 39 in		sandy loam	moderately slow	4.04 to 4.98 in	5.1 to 7.3
C --	39 to 60 in		sandy loam	moderately slow	2.30 to 2.92 in	5.6 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

860D--Urban land-Hayden-Kingsley complex, 15 to 25 percent slopes

Urban land

Extent: 50 percent of the unit

Landform(s): moraines

Slope gradient: 15 to 25 percent

Parent material:

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw factor (surface layer)

Land capability, nonirrigated:

Hydric soil: no

Hydrologic group:

Potential for frost action:

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

Hayden

Extent: 25 percent of the unit

Landform(s): moraines

Slope gradient: 15 to 25 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated: 6e

Hydric soil: no

Hydrologic group: B

Potential for frost action: moderate

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

Ap --	0 to 9 in	fine sandy loam	moderately rapid	1.27 to 1.63 in	5.6 to 7.3
E --	9 to 15 in	fine sandy loam	moderately rapid	0.71 to 1.06 in	5.6 to 7.3
Bt --	15 to 50 in	clay loam	moderate	5.26 to 6.66 in	5.1 to 7.3
C --	50 to 60 in	loam	moderate	1.38 to 1.87 in	7.4 to 8.4

Map Unit Description (MN)

Washington County, Minnesota

860D--Urban land-Hayden-Kingsley complex, 15 to 25 percent slopes

Kingsley

Extent: 20 percent of the unit

Landform(s): moraines

Slope gradient: 15 to 25 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .24

Land capability, nonirrigated: 6e

Hydric soil: no

Hydrologic group: C

Potential for frost action: low

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 8 in	sandy loam		moderate	0.79 to 1.42 in	5.6 to 6.5
Bt --	8 to 39 in	sandy loam		moderately slow	4.04 to 4.98 in	5.1 to 7.3
C --	39 to 60 in	sandy loam		moderately slow	2.30 to 2.92 in	5.6 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

861C--Urban land-Kingsley complex, 3 to 15 percent slopes

Urban land

Extent: 60 percent of the unit

Landform(s): moraines

Slope gradient: 3 to 15 percent

Parent material:

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw factor (surface layer)

Land capability, nonirrigated:

Hydric soil: no

Hydrologic group:

Potential for frost action:

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

Kingsley

Extent: 35 percent of the unit

Landform(s): moraines

Slope gradient: 3 to 15 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .24

Land capability, nonirrigated: 3e

Hydric soil: no

Hydrologic group: C

Potential for frost action: low

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

Ap --	0 to 8 in	sandy loam	moderate	0.79 to 1.42 in	5.6 to 6.5
Bt --	8 to 39 in	sandy loam	moderately slow	4.04 to 4.98 in	5.1 to 7.3
C --	39 to 60 in	sandy loam	moderately slow	2.30 to 2.92 in	5.6 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

861D--Urban land-Kingsley complex, 15 to 25 percent slopes

Urban land

Extent: 60 percent of the unit

Landform(s): moraines

Slope gradient: 15 to 25 percent

Parent material:

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw factor (surface layer)

Land capability, nonirrigated:

Hydric soil: no

Hydrologic group:

Potential for frost action:

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

Kingsley

Extent: 35 percent of the unit

Landform(s): moraines

Slope gradient: 15 to 25 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .24

Land capability, nonirrigated: 6e

Hydric soil: no

Hydrologic group: C

Potential for frost action: low

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

Ap --	0 to 8 in	sandy loam	moderate	0.79 to 1.42 in	5.6 to 6.5
Bt --	8 to 39 in	sandy loam	moderately slow	4.04 to 4.98 in	5.1 to 7.3
C --	39 to 60 in	sandy loam	moderately slow	2.30 to 2.92 in	5.6 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

862--Urban land-Dundas complex, 1 to 4 percent slopes

Urban land

Extent: 60 percent of the unit

Landform(s): drainageways on moraines

Slope gradient: 1 to 4 percent

Parent material:

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw factor (surface layer)

Land capability, nonirrigated:

Hydric soil: no

Hydrologic group:

Potential for frost action:

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

Dundas

Extent: 40 percent of the unit

Landform(s): drainageways on moraines

Slope gradient: 1 to 4 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .17

Land capability, nonirrigated: 2w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

Ap --	0 to 9 in	fine sandy loam	moderate	1.36 to 1.81 in	5.6 to 6.5
E --	9 to 13 in	sandy clay loam	moderate	0.59 to 0.75 in	5.6 to 7.3
Btg --	13 to 45 in	sandy clay loam	moderate	4.78 to 6.06 in	5.6 to 7.3
Cg --	45 to 60 in	loam	moderate	2.09 to 2.84 in	7.4 to 8.4

Map Unit Description (MN)

Washington County, Minnesota

863--Urban land-Lino complex, 0 to 3 percent slopes

Urban land

Extent: 65 percent of the unit

Landform(s): outwash plains

Slope gradient: 0 to 3 percent

Parent material:

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw factor (surface layer)

Land capability, nonirrigated:

Hydric soil: no

Hydrologic group:

Potential for frost action:

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

Lino

Extent: 35 percent of the unit

Landform(s): outwash plains

Slope gradient: 0 to 3 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .20

Land capability, nonirrigated: 3s

Hydric soil: no

Hydrologic group: A/D

Potential for frost action: moderate

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

A --	0 to 9 in	loamy fine sand	rapid	0.91 to 1.09 in	5.1 to 6.0
Bw --	9 to 36 in	loamy fine sand	rapid	1.61 to 2.14 in	5.1 to 6.0
C --	36 to 60 in	fine sand	rapid	1.20 to 1.68 in	5.1 to 6.5

Map Unit Description (MN)

Washington County, Minnesota

896C--Mahtomedi-Kingsley complex, 3 to 12 percent slopes

Mahtomedi

Extent: 60 percent of the unit

Landform(s): moraines

Slope gradient: 3 to 12 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .10

Land capability, nonirrigated: 6s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	loamy sand	rapid	0.79 to 0.94 in	5.1 to 6.5
Bw -- 8 to 30 in	gravelly coarse sand	rapid	1.10 to 1.54 in	5.1 to 6.5
C -- 30 to 60 in	gravelly sand	rapid	1.20 to 2.69 in	5.1 to 7.8

Kingsley

Extent: 35 percent of the unit

Landform(s): moraines

Slope gradient: 3 to 12 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .24

Land capability, nonirrigated: 3e

Hydric soil: no

Hydrologic group: C

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	sandy loam	moderate	0.79 to 1.42 in	5.6 to 6.5
Bt -- 8 to 39 in	sandy loam	moderately slow	4.04 to 4.98 in	5.1 to 7.3
C -- 39 to 60 in	sandy loam	moderately slow	2.30 to 2.92 in	5.6 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

896D--Mahtomedi-Kingsley complex, 12 to 25 percent slopes

Mahtomedi

Extent: 60 percent of the unit

Landform(s): moraines

Slope gradient: 12 to 25 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .10

Land capability, nonirrigated: 6s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 5 in	loamy sand	rapid	0.51 to 0.61 in	5.1 to 6.5
E --	5 to 8 in	sand	rapid	0.14 to 0.28 in	5.1 to 6.5
Bw --	8 to 30 in	gravelly coarse sand	rapid	1.10 to 1.54 in	5.1 to 6.5
C --	30 to 60 in	gravelly sand	rapid	1.20 to 2.69 in	5.1 to 7.8

Kingsley

Extent: 35 percent of the unit

Landform(s): moraines

Slope gradient: 12 to 25 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .24

Land capability, nonirrigated: 6e

Hydric soil: no

Hydrologic group: C

Potential for frost action: low

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 8 in	sandy loam	moderate	0.79 to 1.42 in	5.6 to 6.5
Bt --	8 to 39 in	sandy loam	moderately slow	4.04 to 4.98 in	5.1 to 7.3
C --	39 to 60 in	sandy loam	moderately slow	2.30 to 2.92 in	5.6 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

896F--Mahtomedi-Kingsley complex, 25 to 40 percent slopes

Mahtomedi

Extent: 65 percent of the unit

Landform(s): moraines

Slope gradient: 25 to 40 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .10

Land capability, nonirrigated: 7s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	loamy sand	rapid	0.31 to 0.38 in	5.1 to 6.5
Bw -- 3 to 23 in	gravelly coarse sand	rapid	0.98 to 1.38 in	5.1 to 6.5
C -- 23 to 60 in	gravelly sand	rapid	1.48 to 3.33 in	5.1 to 7.8

Kingsley

Extent: 30 percent of the unit

Landform(s): moraines

Slope gradient: 25 to 40 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .24

Land capability, nonirrigated: 7e

Hydric soil: no

Hydrologic group: C

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	sandy loam	moderate	0.79 to 1.42 in	5.6 to 6.5
Bt -- 8 to 39 in	sandy loam	moderately slow	4.04 to 4.98 in	5.1 to 7.3
C -- 39 to 60 in	sandy loam	moderately slow	2.30 to 2.92 in	5.6 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

1013--Pits,quarry

Pits, quarry

Extent: 100 percent of the unit

Landform(s): moraines

Slope gradient: 0 to 50 percent

Parent material:

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw factor (surface layer)

Land capability, nonirrigated:

Hydric soil:

Hydrologic group:

Potential for frost action:

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

1027--Udorthents, wet substratum

Udorthents, wet substratum

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 0 to 6 percent

Parent material:

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw factor (surface layer)

Land capability, nonirrigated:

Hydric soil: no

Hydrologic group:

Potential for frost action:

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

Map Unit Description (MN)

Washington County, Minnesota

1029--Pits, gravel

Pits, gravel

Extent: 100 percent of the unit

Landform(s): outwash plains

Slope gradient: 0 to 25 percent

Parent material:

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw factor (surface layer)

Land capability, nonirrigated:

Hydric soil:

Hydrologic group:

Potential for frost action:

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

1033--Udifluvents

Udifluvents

Extent: 90 percent of the unit

Landform(s): shorelines

Slope gradient: 0 to 6 percent

Parent material: sandy beach sediments

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw factor (surface layer)

Land capability, nonirrigated: 4w

Hydric soil: no

Hydrologic group:

Potential for frost action:

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

Map Unit Description (MN)

Washington County, Minnesota

1039--Urban land

Urban land

Extent: 100 percent of the unit

Landform(s): moraines

Slope gradient: 0 to 6 percent

Parent material:

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw factor (surface layer)

Land capability, nonirrigated:

Hydric soil: no

Hydrologic group:

Potential for frost action:

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

1040--Udorthents

Udorthents

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 0 to 6 percent

Parent material:

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw factor (surface layer)

Land capability, nonirrigated:

Hydric soil: no

Hydrologic group:

Potential for frost action:

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

Map Unit Description (MN)

Washington County, Minnesota

1055--Aquolls and Histosols, ponded

Histosols, ponded

Extent: 50 percent of the unit

Landform(s): depressions on moraines

Slope gradient: 0 to 1 percent

Parent material: organic materials

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 2

Wind erodibility group (WEG): 8

Wind erodibility index (WEI): 0

Kw factor (surface layer) .02

Land capability, nonirrigated: 8w

Hydric soil: yes

Hydrologic group: A/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa1 -- 0 to 8 in	muck	moderately rapid	2.76 to 3.54 in	
Oa2 -- 8 to 60 in	muck	moderately rapid	18.19 to 23.39 in	

Aquolls, ponded

Extent: 50 percent of the unit

Landform(s): depressions on moraines

Slope gradient: 0 to 1 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 8

Wind erodibility index (WEI): 0

Kw factor (surface layer) .32

Land capability, nonirrigated: 8w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 42 in	silty clay loam	moderate	7.58 to 9.27 in	6.1 to 7.8
Bg -- 42 to 50 in	clay loam	moderate	1.18 to 1.50 in	6.6 to 7.8
Cg -- 50 to 60 in	loam	moderate	1.48 to 1.87 in	7.4 to 8.4

Map Unit Description (MN)

Washington County, Minnesota

1813B--Lino variant loamy fine sand, 2 to 6 percent slopes

Lino

Extent: 95 percent of the unit

Landform(s): outwash plains

Slope gradient: 2 to 6 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .32

Land capability, nonirrigated: 3s

Hydric soil: no

Hydrologic group: A

Potential for frost action: moderate

Representative soil profile:

			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 7 in	loamy fine sand		rapid	0.71 to 0.92 in	5.1 to 7.3
E/Bt --	7 to 60 in	fine sand		rapid	3.17 to 4.22 in	6.1 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

1819F--Dorerton-Rock outcrop complex, 25 to 65 percent slopes

Dorerton

Extent: 80 percent of the unit

Landform(s): escarpments on terraces, hills

Slope gradient: 25 to 65 percent

Parent material: loamy sediment over limestone bedrock

Restrictive feature(s): lithic bedrock at 45 to 70 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .28

Land capability, nonirrigated: 7e

Hydric soil: no

Hydrologic group: B

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A,E -- 0 to 10 in	sandy loam	moderately rapid	0.98 to 1.77 in	5.1 to 7.3
2Bt -- 10 to 30 in	flaggy clay loam	moderate	1.61 to 3.81 in	5.1 to 7.3
2C -- 30 to 45 in	very flaggy loamy sand	moderately rapid	0.45 to 2.09 in	5.6 to 7.3
3R -- 45 to 60 in	bedrock	moderately rapid	0.45 to 1.35 in	7.4 to 8.4

Rock outcrop

Extent: 20 percent of the unit

Landform(s): escarpments on terraces, hills

Slope gradient: 25 to 65 percent

Parent material:

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw factor (surface layer)

Land capability, nonirrigated:

Hydric soil: no

Hydrologic group:

Potential for frost action:

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
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Map Unit Description (MN)

Washington County, Minnesota

1820F--Mahtomedi variant-Rock outcrop complex, 25 to 60 percent slopes

Mahtomedi

Extent: 80 percent of the unit

Landform(s): escarpments on terraces

Slope gradient: 25 to 60 percent

Parent material: outwash over sandstone residuum or bedrock

Restrictive feature(s): paralithic bedrock at 40 to 80 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated: 7s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 3 in	sandy loam	moderately rapid	0.41 to 0.54 in	5.1 to 6.5
Bw --	3 to 32 in	loamy sand	rapid	2.59 to 3.16 in	5.1 to 6.0
2BC --	32 to 42 in	sand	rapid	0.51 to 0.72 in	5.1 to 6.5
3Cr --	42 to 60 in	weathered bedrock	moderately slow		

Rock outcrop

Extent: 20 percent of the unit

Landform(s): escarpments on terraces

Slope gradient: 25 to 60 percent

Parent material:

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw factor (surface layer)

Land capability, nonirrigated:

Hydric soil: no

Hydrologic group:

Potential for frost action:

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
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Map Unit Description (MN)

Washington County, Minnesota

1821--Alganssee loamy sand

Alganssee

Extent: 95 percent of the unit

Landform(s): flood plains

Slope gradient: 0 to 2 percent

Parent material: sandy alluvium

Restrictive feature(s): greater than 60 inches

Flooding: occasional

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .10

Land capability, nonirrigated: 3w

Hydric soil: no

Hydrologic group: A/D

Potential for frost action: moderate

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 6 in	loamy sand		rapid	0.59 to 0.71 in	4.5 to 7.8
C --	6 to 60 in	sand		rapid	2.70 to 5.39 in	4.5 to 8.4

1827--Waukegan variant silt loam, 0 to 2 percent slopes

Waukegan

Extent: 90 percent of the unit

Landform(s): outwash terraces

Slope gradient: 0 to 2 percent

Parent material: loess over outwash over bedrock

Restrictive feature(s): lithic bedrock at 30 to 45 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .37

Land capability, nonirrigated: 2s

Hydric soil: no

Hydrologic group: B

Potential for frost action: low

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 12 in	silt loam		moderate	2.36 to 2.83 in	5.6 to 6.5
Bw --	12 to 23 in	silt loam		moderate	2.20 to 2.65 in	5.6 to 6.5
2Bw --	23 to 40 in	gravelly sand		rapid	1.04 to 1.39 in	5.6 to 7.3
3R --	40 to 50 in	unweathered bedrock		rapid		

Map Unit Description (MN)

Washington County, Minnesota

1827B--Waukegan variant silt loam, 2 to 9 percent slopes

Waukegan

Extent: 90 percent of the unit

Landform(s): outwash terraces

Slope gradient: 2 to 9 percent

Parent material: loess over outwash over bedrock

Restrictive feature(s): lithic bedrock at 30 to 45 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .37

Land capability, nonirrigated: 2e

Hydric soil: no

Hydrologic group: B

Potential for frost action: low

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 12 in	silt loam		moderate	2.36 to 2.83 in	5.6 to 6.5
Bw --	12 to 23 in	silt loam		moderate	2.20 to 2.65 in	5.6 to 6.5
2Bw --	23 to 40 in	gravelly sand		rapid	1.04 to 1.39 in	5.6 to 7.3
3R --	40 to 50 in	unweathered bedrock		rapid		

Map Unit Description (MN)

Washington County, Minnesota

1847--Barronett silt loam, sandy substratum

Barronett, sandy substratum

Extent: 85 percent of the unit

Landform(s): drainageways on outwash plains

Slope gradient: 0 to 2 percent

Parent material: alluvium over outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 4

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .43

Land capability, nonirrigated: 3w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 17 in	silt loam		moderate	3.39 to 4.06 in	5.1 to 6.5
Bt --	17 to 42 in	silt loam		moderate	4.03 to 5.54 in	5.1 to 6.5
2BC --	42 to 50 in	loamy sand		rapid	0.16 to 0.55 in	5.1 to 6.5
2C --	50 to 60 in	sand		very rapid	0.20 to 0.69 in	5.1 to 7.3

Map Unit Description (MN)

Washington County, Minnesota

1848B--Sparta loamy sand, bedrock substratum, 0 to 6 percent slopes

Sparta, bedrock substratum

Extent: 90 percent of the unit

Landform(s): outwash terraces

Slope gradient: 0 to 6 percent

Parent material: sandy glaciofluvial deposits over bedrock

Restrictive feature(s): lithic bedrock at 40 to 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .15

Land capability, nonirrigated: 4s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

Representative soil profile:		Texture	Permeability	Available water capacity	pH
A --	0 to 5 in	loamy sand	rapid	0.51 to 0.61 in	5.6 to 6.0
Bw --	5 to 40 in	fine sand	rapid	2.10 to 2.80 in	5.6 to 6.0
2C --	40 to 44 in	clay loam	moderate	0.55 to 0.63 in	5.1 to 7.8
3R --	44 to 54 in	unweathered bedrock	moderately slow		

M-W--Water, miscellaneous

Water, miscellaneous

Extent: 100 percent of the unit

Landform(s):

Slope gradient:

Parent material:

Restrictive feature(s): greater than 60 inches

Flooding:

Ponding:

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw factor (surface layer)

Land capability, nonirrigated:

Hydric soil:

Hydrologic group:

Potential for frost action:

Representative soil profile:		Texture	Permeability	Available water capacity	pH
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Map Unit Description (MN)

Washington County, Minnesota

W--Water

Water

Extent: 100 percent of the unit

Landform(s):

Slope gradient:

Parent material:

Restrictive feature(s): greater than 60 inches

Flooding:

Ponding:

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw factor (surface layer)

Land capability, nonirrigated:

Hydric soil:

Hydrologic group:

Potential for frost action:

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

This report provides a semitabular listing of some soil and site properties and interpretations that are valuable in communicating the concept of a map unit. The report also provides easy access to the commonly used conservation planning information in one place. The major soil components in each map unit are displayed. Minor components may be displayed if they are included in the database and are selected at the time the report is generated.